RadoNorm Managing risks from radon and NORM

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Showcasing the latest trends in radiation protection research.

Radiological dose assessment methods for NORM in different scenarios: from landfill to recycling of residues in agriculture

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This research develops methodologies to assess the radiological dose from disposal or agricultural reuse of residues of naturally occurring radioactive materials (NORM). Relevant exposure scenarios for workers and members of the public have been simulated using the RESRAD modelling software with the latest dose coefficients from the International Commission on Radiological Protection (ICRP).

Screening levels (called Operational Levels in this work) in terms of activity concentration fulfilling the annual dose criterion of 1 mSv, for members of the public (including all ICRP age groups) and workers have been calculated for each decay chain segments of both U-238 and Th-232 series, as well as for K-40. The findings indicate that the Operational Levels are generally higher than general clearance levels adopted in the European Union.

These methodologies provide practical screening tools for evaluating the radiological impact of NORM residue management, supporting regulatory compliance and fostering sustainable practices in waste disposal and agricultural reuse.

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